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ABSTRACT

The purpose of the Federal Library and Information Center Committee (FLICC) is to make federal library and information centers' resources more effective through professional development of employees, promotion of library and information services, and coordination of available resources. This 14th Forum concerns telecommunications and information policy, access, and quality. Welcoming remarks by Susan Tarr and an Introduction by Daniel Mulhollan begin the report. The Forum's vision speaker, Larry Pressler, suggests what telecommunications technology has in store. The first keynote address by Elliot Maxwell, "When a Plan Comes Together," explains how government plans to facilitate progress and balance interests as it implements new telecommunications law. The remaining presentations are: "Universal Service/Citizen Participation in Government" (Andrew Blau); "A Global Environment" (David Turetsky); "Diversity--Commercialization and Consolidation" (second keynote address, Lawrence K. Grossman); "Relevance--Retrieving and Filtering Software" (William Burrington); "Professional Assistance" (Peggy Garvin); and "Continuity--Coordination and Commitment" (David Plocher). Final remarks from Emmett Paige focus on future needs for information systems and service provision. (AEF)

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1997 FLICC FORUM ON FEDERAL INFORMATION POLICIES

CLEAR SIGNALS? Telecommunications, Convergence, and the Quality of Information

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1997 FLICC FORUM ON FEDERAL INFORMATION POLICIES

A Summary of Proceedings

CLEAR SIGNALS? Telecommunications, Convergence, and the Quality of Information

The Federal Library and Information Center Committee
The Library of Congress • Washington, D.C.

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About FLICC/FEDLINK

The Federal Library and Information Center Committee (FLICC) was created in 1965 as the Federal Library Committee by joint action of the Library of Congress and the Bureau of the Budget (currently the Office of Management and Budget). FLICC is composed of the directors of the four national libraries—the Library of Congress, National Library of Medicine, National Agricultural Library, and the National Library of Education—and representatives of cabinet-level executive departments, legislative, judicial and independent federal agencies with major library programs. The Committee is chaired by the Librarian of Congress.

FLICC's purpose is to make federal library and information centers' resources more effective through professional development of employees, promotion of library and information services, and coordination of available resources. FLICC is also responsible for making recommendations on federal library and information policies, programs, and procedures to federal agencies and to others concerned with libraries and information centers.

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- The Implementation and Implications for Information Access, February 12, 1986
- Views of a Concerned Community, February 25, 1987
- The Impact on Competitiveness, March 7, 1988
- The Congressional Initiative, March 22, 1989
- Access is the Key, March 20, 1990
- Building Information Superhighways: Supercomputing Networks and Libraries, February 15, 1991
- The Future of Government Technology: Money, Management, and Technology, March 17, 1992
- Government's Role in the Electronic Era: User Needs and Government's Response, March 25, 1993
- Information's Roles in Reinventing Government: Delivery of Government Information, March 22, 1994
- The Life Cycle of Government Information: Challenges of Electronic Innovation, March 24, 1995
- The Public's Information: Striking a Balance Between Access and Control, March 19, 1996

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The annual FLICC Forum on Federal Information Policies is arranged under the auspices of the FLICC Education Working Group which was chaired in 1996 by Amy Begg, Smithsonian Institution Libraries. Each year, volunteers from the FLICC Education Working Group serve with the Ad Hoc FLICC Forum Planning Group which is composed of information experts. The ad hoc working group selects the Forum topic, identifies speakers, and helps to prepare the Forum program. FLICC wishes to express its appreciation to the FLICC Education Working Group, particularly to group member Donald Fork, Education Department; to Ad Hoc Forum Planning Group members Anne Heanue, American Library Association/Washington Office; Anna Gold, National Science Foundation; Glenn Schlarman, Office of Management and Budget; Marc Serepca, Special Libraries Association; Gloria Thomas, Federal Communications Commission; and Peter Young, National Commission on Libraries and Information Science; and to Library of Congress members Jane Bortnick Griffith, Lynne McCay and Harold Relyea of the Congressional Research Service.

Proceedings written by Jessica Clark

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Newspapers, business magazines, TV commercials, and catalogs from electronics retailors all trumpet that our telecommunications environment is changing daily. Advances in technology and the telecom industry are moving us toward new devices, new content options, and new possibilities. Congress recognized that the stakes were enormous as it crafted the Telecommunication Act of 1996. Now that the Act is being implemented, business and industry are moving and it is time to focus on how new technology will affect the quality of the information we rely on.

Please join information professionals, government officials, telecom industry leaders, and concerned citizens at the Library of Congress for the 14th Annual FLICC Forum on Federal Information Policies, "Clear Signals? Telecommunications, Convergence, and the Quality of Information." The Forum's vision speaker will suggest what telecom technology has in store for us. The keynoter will explain how government plans to facilitate progress and balance interests as it implements new telecommunications law. A morning panel will consider policy questions associated with mandating universal service, operating in a global environment, and changing the way government and the public interact.

The afternoon session will focus on three areas where the quality of information is challenged by a networked world: diversity in information sources and content; relevance; and continuity.

• First, will information providers be forced to consolidate in order to be successful in the vast consumer markets promised by telecom and computer technology—thereby leaving the public with fewer independent sources of information? Will they race to deliver consumer-friendly products so that entertainment, advertising, and propaganda overwhelm the Internet?

• Second, how will users find relevant information? Will filtering software and other tools users employ themselves be sufficient or will users turn to intermediaries for assistance? Will librarians need to become more involved in evaluating resources and doing the users' research for them?

• Third, how will government agencies ensure effective management of information resources? Coordinating initiatives under a Chief Information Officer (CIO) may improve the way an agency acquires and implements information technology; will it also ensure the quality of the information the agency disseminates or of the information it uses? Or will agencies focus on new technologies at the expense of the content, analysis, organization, and retention of the information itself?

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"...the medium and the message"

Welcome: Susan Tarr
Executive Director, FLICC

FLICC Executive Director Susan welcomed the audience to the Federal Library Information Center Committee's (FLICC) fourteenth annual Forum on Federal Information Policies. "FLICC is based in the Library of Congress, but its mission is government-wide," she said. "Its mission is to increase the effectiveness of federal libraries and information centers through promotion of services, coordination of resources, and professional development of staff."

The current challenge for information workers is to sort through the exploding number of raw resources found online to provide timely, authentic, reliable, and useful information to their clients. "The convergence of sophisticated telecommunications technology with high-speed computing capability promises to give us more information to organize than we ever could have dreamed possible 20 years ago in library school," said Tarr.

She explained that the day's speakers would explore where telecommunications policy is going and what federal regulators are doing to direct it. "Our forum planning committee decided to deal with both the medium and the message today," Tarr said, "to address both telecommunications growth and information quality."

She introduced and thanked the members of Forum Planning Committee:

- Donald Fork, US Department of Education
- Anna Gold, National Science Foundation
- Jane Bortnick Griffith, CRS, Library of Congress
- Ann Heanue, American Library Association
- Lynne McCay, CRS, Library of Congress
- Harold Relyea, CRS, Library of Congress
- Glenn Schlarman, Office of Management and Budget
- Mark Serepca, Special Libraries Association
- Gloria Thomas, Federal Communications Commission
- Peter Young, National Commission on Libraries and Information Science

She also thanked FLICC staff members Anna Bohlin, Lizzie Daniels, Kathy Eighmey, Mitchell Harrison, Robin Hatziyannis, Bashira Malik, and Meg Williams, for their help in planning, publicizing, and staffing the event. ■

"Librarians are society's knowledge navigators."

Introduction: Daniel Mulhollan
Director, Library of Congress Congressional Research Service

Daniel Mulhollan, director of the Library of Congress Congressional Research Service (CRS), welcomed the audience on behalf of Librarian of Congress James H. Billington. He praised the Forum for providing an "annual status report" on information access and dissemination issues since 1984.

"The Forum offers a platform for federal libraries and information centers to discuss and coordinate their policies, programs, and procedures," said Mulhollan. "These discussions inform the Congress, federal agencies, and all others who are concerned with the government's role in providing and regulating access to federal information."

He proposed that the 1997 Forum would address the question of how telecommunications could reinforce the best in American society.

"Will the convergence of information providers result only in an overwhelming flood of entertainment and high-priced information on demand?" Mulhollan asked. "Will researchers be able to identify and locate useful and relevant information? How will federal libraries manage these resources to ensure that federal policy makers have the best information available? How can federal agencies exploit these technologies to inform their constituencies?"

He described Library of Congress efforts to make its collections accessible to the public through the National Digital Library—an initiative well on its way to fulfilling its promise to digitize five million items by the year 2000. Mulhollan noted that other federal libraries are also working to serve as important online centers where the public can access a wider range of information sources and services.

"Librarians are society's knowledge navigators. They continue to guide users to the most relevant information in whatever form it is available," said Mulhollan. "Managing digital information and making choices about the ownership or licensing of information requires their astute eye for content analysis, organization, and authenticity."

"Universal access is not synonymous with general progress," Mulhollan reminded audience members. For that reason, the day's speakers would focus both on issues of access to online information and the steps necessary to verify the content, relevance, and continuity of that information.

"We will discuss new ways for the government and the citizen to work together in this new environment," Mulhollan said. "We must ensure that new technologies enhance the quality of information on which we all rely." Mulhollan concluded his remarks by introducing the day's Vision Speaker, former Senator Larry Pressler, author of the Telecommunications Act of 1996. ■

"...a sweeping change"

Vision Statement: Larry Pressler
Senator and author of the Telecommunications Act of 1996

Former Senator Larry Pressler (R-South Dakota) spent a total of 22 years in the US Senate and House. A Rhodes Scholar and a Vietnam veteran, Pressler has served on 13 Congressional Committees, including the Senate Foreign Relations Committee, the Finance Committee, and the Small Business Committee. As the head of the Senate Commerce Committee, he sponsored the Telecommunications Act of 1996, and shepherded the bill through its passage.

He began by thanking the librarians in the audience for their help during his years in the Senate. "I am really proud of the people who work at the Library of Congress and make it available," said Pressler.

He described the struggle surrounding the passage of the Telecommunications Act and the competing interests which helped to shape it. Passed after many years of debate, the Act amended the Communications Act of 1934. This amendment dissolved regulations which, according to Pressler, created "apartheid" between the long distance carriers, local Bells, cable companies, broadcasters, and utility companies.

"We had this balkanized system," he said, "but nobody wanted to change." Instead, each industry wanted to keep their monopoly, but insisted that the government break up monopolies held by their competitors. In order to create a climate of competition, he explained, the Act had to make it possible for companies to enter new markets by purchasing access to existing networks and infrastructures, such as local wiring and telephone number systems.

"We wanted to start by getting everybody into everybody's business," Pressler said.

Although the Act's authors favored deregulation of the telecommunications and broadcasting industries, it was necessary to set up guidelines to ensure that companies provide their competitors with transparent, high-quality transmission services. "If you were selling pizza and your competitor delivered it, the deliveries might not be as good as if you were delivering it," he suggested. "So there is still a fair amount of regulation, even though we say there is deregulation."

Compromise was key to the Act's passage, as petitioners ranging from international multinational corporations to rural schoolteachers lobbied Congress to consider their interests. For example, Pressler noted, the lobby for manufacturers of burglar alarms—which are wired via phone lines to local police stations—was surprisingly strong. Industry representatives managed to negotiate a five-year moratorium before the regional Bells could enter their business.

"You may say that sounds like a mundane thing, but the home alarm people are small businesspeople in every state, in every town," he said. "They're a substantial industry in the United States today."

"We had to find a moment of Camelot when we got all of these groups together," he continued. "In addition to the big issues I have just talked about, there are hundreds of smaller issues that are addressed in this huge bill."

The passage of the Act had been a long time coming; amendments to the Communications Act of 1934 were originally brought to the floor by Barry Goldwater. Pressler compared the negotiations to playing a chess game in which everyone has a check. "On all fronts, there were potential checkmates, and that's why the bill did not pass so many times. It is a very complex piece of legislation."

One strategy the Act's authors used to reach agreement was to phase in different changes over different periods of time. The case of the home alarm companies provides one example. Similarly, cable companies were granted three years before they will face competition. Unfortunately, this has led to confusion and anger as the public waits for the rate drops and service choices promised by politicians when the bill was passed.

Pressler indicated that he would have preferred less government interference. "I would have gone much further, deregulated much more, and would have opened up our investments more," Pressler said. He contrasted US policies with recent developments in the United Kingdom. "England has deregulated amazingly," he said. "I think England's economy will lead Europe's economy in the next 10 to 20 years. They are privatizing everything. We are a very regulated economy in comparison to what England is doing."

Many critics have complained that the Act provides too many perks to corporations and makes too few provisions for public access to and control of telecommunications and broadcast resources. In response, Pressler suggested that the trend in government and economics over the last 30 years has been to support deregulation. "We have had a decided change in economic thinking in my lifetime, but some of our friends in the press have not got it. The Act has been a sweeping change and has been accepted internationally, but has gotten very bad press," he said.

He responded to critics by pointing out that in February the World Trade Organization (WTO) had finalized an agreement between 70 nations to adopt provisions close to those outlined in the Telecommunications Act. The WTO agreement will allow investors to purchase stock in foreign telecommunications companies. International agreements are reciprocal, so that investors from a country can invest the same percentage as their country allows foreigners to invest. In countries with a monopoly telephone system, competitive incentives will be introduced. Universal service clauses are optional and are to be determined individually by the countries.

"This is very significant because it means there will be significant telecommunications advances in a lot of foreign countries," said Pressler.

"Of course," he continued, "about half the people in the world have never made a phone call." Developing countries are now "skipping a generation" by turning to cellular phone systems before they have even installed copper wiring. "There are amazing things happening and this is a very, very important tool for economic development," said Pressler.

He criticized countries such as Canada and France for what he characterized as protectionist policies. "Canadians say they want to protect their culture, but they really want to protect their companies," Pressler said. ■

"...a foundation as opposed to a building"

Part I: When A Plan Comes Together
Keynote—Elliot Maxwell
Deputy Chief of the FCC Office of Plans and Policy

Keynote Speaker Elliot Maxwell, Deputy Chief of the Federal Communications Commission (FCC) Office of Plans and Policy, outlined the FCC's plans for implementing the provisions of the Telecommunications Act of 1996. Maxwell was previously the Director of International Technology Policy at the Department of Commerce; before that he worked at the FCC as Special Assistant to the Chairman, and as Deputy Chief of the Office of Science and Technology. Before joining the Department of Commerce, he spent nearly 10 years working for Pacific Telesis Group in San Francisco. He holds a J.D. from Yale University.

"This is near the first anniversary of the Act, so I think it's a good time to look at it," he said, "but with a view for what will happen over time, as opposed to the journalistic view of what has just happened."

He characterized the Act as "a foundation as opposed to a building"—a base to support a still unpredictable architecture of providers and services. "If the foundation is strong and flexible, if it can accommodate changes such as the installation of different windows, different doors, it will have proven a remarkable success," said Maxwell.

"The Act was quite extraordinary," he continued. "It said 'let there be a commercial war of all against all.' The notion was that competition would eventually bring the benefits that it has in so many other markets: lower prices, technological innovation, new services, and more investment."

He focused on the effects of the Act on local telephone services, a $100 billion market of 1400 telephone companies—eight of which represent 85 percent of the industry. In this market, Maxwell explained, there is the greatest opportunity for competition, and the decisions made by policymakers influence whether the local companies will enter the long distance and video markets.

Regulation of local service prior to the Act was designed to emulate the effects of competition in a situation where competition seemed impossible. Local telephony was assumed to be a natural monopoly; new technologies have changed this assumption. It became necessary to examine the barriers to competition across the industry, to "take them down root and branch, to enable competition, and then get out of the way," Maxwell said.

The Telecommunications Act of 1996 assigned the FCC specific tasks and deadlines designed to enable competition, provide incentives for investment, stimulate technological innovation, ensure affordable access, and foster deregulation. These tasks were addressed by what Maxwell termed "The Competition Trilogy"—interconnection, universal service, and access reform.

The majority of investments in telephony are the local loops—the lines from residences to the central office. These are crucial connections that must be made avail-

able to competitors if they are to provide competition in the near term. "If you have to put billions into the ground or over the air before you get a single customer, you will not enter this business," explained Maxwell. "And we will still be dealing with monopolies and expanding regulation."

On August 8, 1996, the FCC released its Interconnection Order, which mandated that incumbent regional telecommunications companies provide:

- Interconnection—linking networks to allow subscribers on one network to call those on another;
- Unbundled Network Elements—allowing competitors to lease network components such as loops and local switching facilities;
- Resale—allowing competitors to resell the incumbent's retail services obtained at wholesale prices;
- Transport and Termination—mutually compensating competitors for delivering calls between networks.

"Reporting one year after is going to be much less important than what will happen in five years, when you will see a world that will be radically different," said Maxwell. "So take the librarian's perspective and recognize that, not tomorrow, but over time, you will see the miracles of this act."

By May 8, 1997, the FCC was required take actions to enforce, with the guidance of regulators, universal service provisions. Maxwell explained that in the past, local phone companies, with the guidance of regulators, ran a "pricing shell game," subsidizing service to rural areas or other areas that were more expensive to serve by charging urban customers much more than it cost to serve them. Businesses were charged more than residential customers; high volume customers subsidized low volume users. In the competitive climate fostered by the new Act, this system will have to be replaced by explicit subsidies. All service providers must support universal service through specific, predictable, and sufficient mechanisms.

Under the new Act, schools and libraries are entitled to discounts from the lowest available rates for services, even beyond simple telephony. Discounts may range from 20-90 percent, depending on the location and resources of the school or library. This program will be subsidized by up to two-and-a-quarter billion dollars per year.

"This is a very important change and, while some may challenge it, it reflects an absolute commitment by the administration to get schools and libraries connected to the kinds of institutions that [the audience members] represent," Maxwell said.

Rural health care providers are also entitled to telecommunications discounts to guarantee them rates comparable to those of urban health care providers. Special services recommended by a Tele-Health Advisory Committee include: eliminating distance charges; providing bandwidth up to 1.544 Mbps; providing a limited amount of "toll free" Internet access; and ensuring infrastructure upgrades and interoperability.

In terms of residential users, there are controversies about which services should be "universally" provided.

General guidelines suggest that all consumers, including low-income consumers, should have access to just, reasonable, and affordable rates for services that include:

- Voice-grade service,
- Touch tone service,
- Single-party service,
- 911 where available
- Access to operator service,
- Access to interexchange services,
- Access to directory assistance.

Additional recommendations include:

> Toll blocking for low-income consumers so that they have greater control over their telecom costs which should help them stay connected to the network.

The FCC was also required to settle issues of access reform by May 8. Fees charged to long distance carriers by local carriers for use of their lines must be reduced and restructured so that they are more economically efficient.

Finally, Maxwell suggested, the FCC will have to grapple with policy questions raised by Internet growth. "We are seeing the evolution of data networks rather than voice networks—a very exciting process," he said. Issues of network congestion, reliability, service quality, and investment, however, are problematic, as are questions of universal service and controversies over Internet content.

"The more competition, the more building of infrastructure, the more technological innovation, the more service innovation, the more investment, the greater the benefit for users," Maxwell concluded. "And it is the user who will be making use of the largely invisible technology improvements and the largely invisible investments and infrastructure developments. I think we are in a most exciting time."

He provided a number of links for audience members interested in learning more:

- **FCC Home Page**—http://www.fcc.gov
- **1996 Telecom Act Implementation Page**—http://www.fcc.gov/telecom.html
- **Interconnection Order**—http://www.fcc.gov/interconnection/fcc9663525.html
- **Common Carrier Bureau Home Page**—http://www.fcc.gov/ccb
- **FCC LearnNet**—http://www.fcc.gov/learnnet
- **FCC Healthnet**—http://www.fcc.gov/healthnet

"...new roles and new demands"

Universal Service/Citizen Participation In Government: Andrew Blau
Director Communications Policy and Practice, Benton Foundation

Andrew Blau directs the Benton Foundation's program in Communications Policy, which strengthens public interest efforts to shape the emerging communications environment through public education, outreach to nonprofit and community groups, and policy development. He was the principal organizer of the Public Interest Summit, the first national meeting of leaders from nonprofit organizations, foundations, and the Clinton administration to discuss public interest policies in communications. Blau has worked with public interest groups such as the Electronic Frontier Foundation, the Alliance for Community Media, and the United Church of Christ on telecommunications and television issues. He serves on the Executive Committee of the Urban Libraries Council and is an adviser to Microsoft's "Libraries Online!" initiative. He discussed the role of libraries in US universal service practice.

Universal service is a professional and policy commitment with strong resonance for both the library and the telecommunications industries, but the traditions are very different. "The convergence of these universal service traditions means that these universal service commitments and policies need to be brought together in a coherent way," said Blau.

He affirmed the need for events such as the Forum, which allow information professionals to share concerns. "Without the professional commitment of people trained in library and information science, the technical and economic efforts to provide universal service end up as empty promises," he said, "because in the telecommunications community, universal service is a wire without anything going over it. It is a promise of an ability to perform, but the usefulness of that comes later and from elsewhere."

He noted recent innovations in universal service introduced in the Telecommunications Act. "Originally, universal service meant a phone in a village," said Blau. "Over time this evolved to mean a phone in every home." The emphasis was always on providing service to residences.

"Institutions were not seen by policy makers as part of this universe," said Blau. The Act, however, designates libraries, schools, and rural health care centers as beneficiaries of universal service. It is notable that education and health care professions also have universal service traditions which must be reconciled with that of telecommunications service.

The Telecommunications Act of 1996 is the first piece of legislation to explicitly set guidelines for universal telecommunications service. There has been an effort in the last 30 to 50 years, said Blau, to keep residential service rates "reasonable" and to provide plans which target low-income residents. This tradition took shape over time, solidifying in the 1970s, in part as a way for the Bell system to justify its monopoly.

There have been many pressures to change the system—most importantly, the pressure to increase competition. "While the universal service system we understand may not be 100 years old, the tension between a commitment to universal telephone service and a commitment to competition have been very much at odds in the last century," he said.

In the new climate of telecommunications competition, federal and state regulators have been asked to create guidelines for enforcing the Act's universal service provisions. They have reiterated commitment to providing service to low-income users, incorporated "rate-averaging" between rural and urban areas, and recognized libraries—as well as schools and rural health care providers—as community access centers for some as-yet unspecified telecommunications services.

"Libraries will not just get a line to the front door, but, in a critically important finding, schools and libraries will get support for basic infrastructure, such as wiring and servers," Blau said. "That will be controversial, but there is an evolving recognition of what it means to provide a set of services in a set of institutions."

"By making this commitment to universal service," he warned, "[libraries] are creating both new roles and new demands as sources of access to a growing number of publics." He suggested that federal libraries may serve as models and partners to public libraries seeking examples of how to provide equitable access and storage arrangements.

A little remarked-upon provision in the Telecommunications Act which authorizes "mixed buying consortia" may help libraries to fund new initiatives. This provision would allow institutions eligible for discounts to enter into cooperative agreements with ineligible institutions to expand access within a community. Such arrangements could force companies to offer lower prices in the area, which would conversely lower the rates to libraries and their partners.

"The opportunity to leverage the market on behalf of institutions which have not been strong market presences in the past is an opportunity buried in this 500 page set of recommendations," Blau said.

In any case, Blau concluded, libraries will serve a crucial function in the new information age. "While I think the role of competition in lowering rates is something we need to give a real chance to, this does not obviate the need for a strong public sector to provide information outside the bottom-line pressures of the market," he said.

"We should not be looking for how to replace a tradition of public service with private service, but what the right mix is to make access really happen. That is why I think it is very exciting that libraries are a part of this mix, because they have been wrestling with these issues for far longer than anyone in telecommunications has. The question of how to create public settings that operate outside marketplace pressures will be as important as anything for the successful future of universal service." ■

"...a tremendous sea change and convergence in world outlook"

A Global Environment: David Turetsky
Deputy Assistant Attorney General, Dept. of Justice, Antitrust Division

David Turetsky, Deputy Assistant Attorney General at the Department of Justice, Antitrust Division, supervises the division's work in the telecommunications and media areas, including investigations, litigation, and the filing of regulatory comments. He spearheads Justice's participation in an interagency and White House working group led by Vice President Gore to develop national and global telecommunications policy. Prior to his appointment in 1993, Turetsky was a member of the LeBoeuf, Lamb firm. He holds a JD from the University of Chicago.

He spoke about the role of antitrust law in regulating the telecommunications industry. He also outlined the recent World Trade Organization (WTO) agreement among G-7 countries to adopt trade guidelines comparable to those outlined in the 1996 Telecommunications Act. (For more information on this agreement, see the WTO site, http://www.wto.org/.)

The WTO agreement was the culmination of a series of meetings over the last three years. "In a very short time, the world has come a very long way in advancing a global information infrastructure," Turetsky said.

Many countries with different economic and cultural circumstances came together and agreed to open their telecommunications markets. "Not because they wished to follow the US as a large country or a leader," said Turetsky, but "because their own national interests depended on an agreement being achieved."

"Leaders were grappling with questions like: Are their citizens and schoolchildren going to have access to the Internet? Will their citizens and businesses benefit from productivity increases that flow from cheaper and more effective voice, video, and data communication, and a stronger communications infrastructure? Will their telecommunications companies be strengthened through the discipline of vigorous competition? Will they fail to sharpen their skills to compete?"

"In short, other countries have decided that they do not want their economy or education to fall behind, and together we do not want to deepen the divisions between information haves and have nots. I think that is a large part of the calculus that led to the agreement," said Turetsky.

Turetsky expanded on the idea that competition may help to facilitate universal service. If competition lowers the cost of services, he explained, the cost of providing access should be cheaper. For example, in the UK, as competition has increased, so has telephone penetration. Regulators see that as new facilities-based networks are built in previously underserved areas, competitors have tried to find profitable ways to provide a limited product to those customers.

As a lawyer in the Antitrust division, Turetsky is charged with examining mergers between corporations to determine if they will negatively impact competition. He does not,

however, condemn the recent mergers in the telecommunications and broadcast industries that have worried many critics.

"I do not think that it is surprising in light of all of the changes—technological, legal, regulatory—that companies are revisiting the strategies they have held to in the past and looking at new strategies and new opportunities," Turetsky said. "I do not find that surprising, and I do not find that threatening. I do not necessarily welcome it—it is not my job to try to decide strategy for companies. But it is my job to keep a sharp and focused eye on the effects of all of this on competition, and where transactions threaten to limit competition, then that is where anti-trust enforcement has a critical role."

He stressed the importance of anti-trust policy in the development of American industry.

"I am occasionally visited by delegates from other countries without a strong history of anti-trust enforcement," Turetsky said. "They are trying to grapple with how best to open up their market, and they have got to do so through a legislative process, for the most part. [The Telecommunications Act] with all of the entrenched interests involved was incredibly difficult to pass. The US was, however, able to move forward even before it passed that legislation because of antitrust."

Turetsky outlined the changes that the WTO agreement would bring to the world economy. When they signed the WTO agreement in February, world leaders joined American leaders in promoting competition and open markets.

"This is a change of profound importance," he explained. "Around the world, a 60-year tradition of telecommunications monopolies and closed markets has been replaced by market-opening deregulation and competition. The agreement covers over 95 percent of world telecommunications revenue. It was negotiated among 70 countries in very different circumstances. Before the agreement, only 17 percent of the top 20 telecommunications markets were open to US companies. Now, those companies will have access to those markets."

Regulatory principles similar to those enforced by the FCC will provide competitive safeguards: interconnection, transparency, dispute settlement mediation, and public availability of license criteria. The establishment of universal service policies will be determined by individual countries.

"[These principles] represent a tremendous sea change and a tremendous convergence in world outlook," Turetsky said. ■

"The Internet can revitalize democracy"

Part II: Diversity—Commercialization and Consolidation
Keynote—Lawrence K. Grossman
Author, The Electronic Republic: Reshaping Democracy in the Information Age

Lawrence K. Grossman, former President of NBC News and PBS, presented the afternoon's Keynote speech. Author of *The Electronic Republic: Reshaping Democracy in the Information Age* and a noted commentator on media and free speech issues, Grossman is a former holder of the Frank Stanton Chair on the First Amendment at the John F. Kennedy School of Government at Harvard, and was Senior Fellow at the Gannett Center for Media studies at Columbia University. He discussed the role of broadcast and electronic media in informing and involving US citizens in politics.

To illustrate the current US political situation, Grossman chose a parable from the Book of Daniel:

King Nebuchadnezzar dreamt that his kingdom of gold would be replaced by a kingdom of silver, and then a kingdom of bronze, and finally by a divided kingdom of iron mixed with common clay. "The fourth kingdom, the Bible warns, will be partly strong, and partly brittle, for iron does not mix well with clay," said Grossman. "This is a striking metaphor for the new and unprecedented style of government that's now taking shape right here in the US. It is a hybrid form of government that combines our traditional representative republic, the iron, with a new-style electronic direct democracy, the common clay."

Grossman predicted that in the digital era television sets will become interactive personal computers capable of linking citizens directly to city halls, state capitals, the White House, Congress, federal and state agencies, and the World Wide Web. "Digital television has immense political potential. It may change forever the relationship of elected leaders to their constituents, of government to the governed," he said.

"New telecommunications technology is already changing the leverage of ordinary citizens on the actions of their government," he noted. Technologies such as focus groups, electronic polling, call-in banks, fax, e-mail, and toll-free numbers have allowed the people to displace the press as the most important outside influence on the government.

"With the public turning into the fourth branch of government, the quest for quality information becomes more critical than ever," Grossman continued. "The new telecommunications media are pouring oil on the public's discontent. The common clay of electronic democracy is being melded with the iron of representative government, creating a divided government beset by constant pressures from a public that wants in on the decision making."

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He termed this new balance of power the "world's first electronic republic."

In an environment where citizens can directly affect public policy, it is crucial that they have access to accurate, unbiased information about issues. Current trends in Internet development, however, are moving toward large commercial and entertainment sites hosted by media conglomerates which may have a vested interest in protecting certain products and viewpoints. Mega-media corporations such as Disney, Time Warner, Viacom, GE, Westinghouse, and TCI are increasingly powerful.

"The commercial mass-media [represent] a ruthless culture dominated by tabloid values and sadly declining as a force for quality education and information," said Grossman. "Investment in worldwide news gathering, in-depth reporting, serious investigative journalism, major documentaries, and responsible civic information is declining precipitously, a most unhealthy situation for a democratic society."

The glut of entertainment diverts citizens from participating in public life at a time when technology allows voters who share interests to unite in unprecedented ways. The Internet has the potential to act as an empowering and interactive civic medium, allowing for the airing of neglected opinions, electronic town meetings, and online balloting.

"No longer will democracy be a leisurely system in which the people vote every few years to elect a handful of representatives who make all of the important decisions," said Grossman. "We are moving inevitably toward something more direct, more fully democratic, potentially more dangerously demagogic." He warned that there is shift from representative democracy to direct democracy, citing a 4000 percent increase in opinion polling. "The pressure to follow public opinion—even if that opinion is ill informed—is increasingly difficult to resist."

"The Internet can revitalize democracy," Grossman said, but it is also "a cluttered and impenetrable labyrinth in which people have to grope their way with no validation of what is authentic and what is not." Information on the Internet may be paranoid, untrue, untrustworthy. Commercial companies have started to offer government information at a price, and may not always present all sides equally.

Grossman highlighted parallels between the rise of radio and the Internet. Like radio, the Internet was first financed by the Department of Defense as a communications tool, but soon ordinary people seized upon it. Also like radio, after substantial government subsidies for development, the Internet is being turned over to commercial interests. Its anarchic character may not be protection enough for it to continue as a medium for free citizen expression.

"So, what can we do about the need for quality civic information?" Grossman asked. He proposed the governing practices of the Athenians as a useful model. In Athens, citizens were selected by lot to serve on citizen juries to consider the issues facing the city-state. Information was crucial, and the society went to great lengths to provide it to all citizens.

"Our country does little to provide mass media civic education," said Grossman. An academic, journalistic, and business elite conducts civic activities while the entertainment mass media produces passive citizens. "In the electronic republic, the exercise of citizenship must be made an integral part of everyday life," he said.

For the "electronic republic" to work, disinterested parties must establish fora for quality information and unmonitored political discussion. Grossman suggests forming an "interactive public service freeway" on the information superhighway, a freeway run by neither the government nor by commercial conglomerates.

"Our media policies are jeopardizing the prospect that we can ever achieve a properly informed, public-spirited, and actively engaged national citizenry," he said. The 1996 Telecommunications Act, touted as spurring competition, low prices, better quality, and more choice has so far, Grossman said, delivered just the opposite. It has spawned more media concentration, less quality, more mindless diversions, and an excess of sameness.

"We need lifelong education, reliable civic information, town meeting discussions, fair-minded documentaries, responsible analysis, and especially, free political time, both during and between elections. The good news is that it should not be too costly or too hard to develop," said Grossman.

The first step toward creating a responsible online public sphere is to draw a distinction between the dissemination of entertainment and data and the dissemination of responsible information. "Information needs to be processed by human intelligence," said Grossman. "The remarkable ability of this new information infrastructure to transport data should not deceive us about the enormous need for sound, solid, and quality information."

He provided the audience with three scenarios of the immediate online future:

1) Information will come from a multiplicity of new sources with no stable institutional framework, no codes of conduct, no standards of professionalism, no validation of information.

2) There will be an increasing concentration of cross-media ownership and the creation of global media monopolies and oligopolies of information sources via satellite, broadcast, and cable.

3) Both of these will most likely happen. The result? "A concentrated few market-driven entertainment providers will wield excessive power and charge high tolls for critically needed information. That will be combined with an anarchic public domain system on the Internet, disseminating highly fragmented, incomplete, anonymous, and unreliable information."

How can this situation be averted? "The most important components of a public system are already in place," said Grossman. He proposed that current public information centers—the Library of Congress, PBS, NPR, public libraries, museums, and universities—be funded to operate a "civic throughway" by allocating a small portion of the revenue from the sale of the public spectrum and fees from entertainment conglomerates for their use of publicly-owned electronic frequencies.

"These organizations have a well-established reputation for impartiality and professionalism. They are all strapped for cash and all have been largely bypassed by television. They should not be bypassed by the telecommunications revolution," Grossman said. He compared the establishment and funding of such a coalition to the establishment of land grant colleges in the mid 1800s.

"Let the nation's universities, libraries, museums, and public broadcasters be given the resources to provide quality information and education—programs, print outs, CD-

ROMs, audio and video cassettes, Internet Web sites, interactive telecourses, textbooks, brochures, you name it," he said. These resources should be made available to everyone at home, in school, at work, in prisons, hospitals, and day care centers

"It would be insane to ignore this grand opportunity to recruit our most respected educational and information centers to bring the people the kinds of reliable information that the information society so obviously and desperately needs," said Grossman.

An attendee asked if Grossman really thought there would be an audience for such a civic and educational information network. "Even if we have the highest disregard for the people, we have no choice," he answered. "We have an obligation to provide access to information. This is not a perfect solution, but it's an inevitable solution. So it becomes critical that we have government policies that put you and your colleagues in the center of society as the ones who disseminate sensible, reasonable, verified information."

"In the end," Grossman concluded, "history has shown that the judgment of the so-called leaders and the elite is not necessarily a heck of a lot better than the judgment of the people themselves." ■

"...a global debate"

Part III: Relevance—Retrieving and Filtering
Filtering Software—William Burrington
Director, Law and Public Policy, America Oncline, Inc.

William Burrington is the Director of Law and Public Policy at America Online, Inc. (AOL), and serves as Assistant General Counsel within the AOL Legal Department. He organized and chaired the Online Public Education Network (Project OPEN) of the Interactive Services Association from July 1995 to October 1996—a national consumer education campaign to promote the responsible and safe use of online services. He is an advisory committee member of the US Congressional Internet Caucus and a Fellow of the Cyberspace Law Institute. He is the co-author of the *Interactive Marketplace Regulatory Handbook*.

Burrington spoke about the Communications Decency Act (CDA) and the role of filtering software in controlling access to online information. He praised the library community for their involvement in online issues. "The librarians have really provided a lot of leadership and financial and other support [in taking] on Congress," he said.

The World Wide Web has been criticized by conservative groups and child welfare advocates because the technology can provide access to objectionable materials with a few clicks of a mouse. The CDA—Title V of the Telecommunications Act of 1996—codifies these objections. The measure prohibits using a telecommunications device to:

1) make or initiate any communication which is obscene, lewd, lascivious, filthy, or indecent with intent to annoy, abuse, threaten, or harass another person;

2) make or make available obscene communication;

3) make or make available an indecent communication to minors.

The CDA also protects the efforts of providers or users of an interactive computer service to restrict access to material that the user or provider considers to be objectionable, whether or not such material is constitutionally protected.

The CDA was valuable, said Burrington, because it "forced a global debate about protecting children from inappropriate material." It was extremely controversial, however, as it threatened to punish providers for making materials available online that are currently protected in settings such as libraries. Legislators acknowledged the controversy surrounding the measure by providing expedited review of civil action challenging the constitutionality of the title by a district court of three judges and by direct appeal to the Supreme Court.

"It was their way of saying 'we know what we are doing is basically wrong, and unconstitutional, but we need to be able to go back home and say that we fought to protect your kids from indecency,' which I find to be amazing and, frankly, disgusting," said Burrington.

"We were very concerned, and had threatened from the beginning of this legislative process that we would challenge this law in court as unconstitutional. We felt that the term

'indecency' was vague," Burrington said. "We really felt it would unnecessarily and prematurely choke off a tremendous amount of value-added information, education, and other resources for people around the world."

The law was challenged in Philadelphia before a three-judge panel in a case brought to bear by the American Library Association. "It was an amazing sight to see these three federal judges with computer terminals in front of them in the ceremonial courtroom," said Burrington, who testified as an expert witness at the trial.

"In the end, they issued a very strong opinion," he said. "They resoundingly came out and said 'look, this is the most powerful medium ever created by the human mind, and the last thing the government should try to do is choke it off prematurely'. We were very encouraged." The judges ruled that the Internet should have the same level of protection as newspapers, which is the highest level of First Amendment protection that any media has. Oral arguments began in the Supreme Court on March 19th, 1997.

"Our argument all along has been if you want to protect children, or to allow users maximum technology control, you do it through technology tools," said Burrington. Since the passage of the CDA, an entire industry has sprung up to develop third-party blocking software. On AOL, customers can block access to various products like graphic downloads, to certain email addresses, to newsgroups, or to the entire Web.

"This empowers parents to make their own choices," Burrington said. "I think the whole message here was that we tried very hard to set a standard for the medium that leaves the control of the medium up to the individual users."

Employers, and groups such as the ALA, the Christian Coalition, or the Sierra Club may also use blocking software to create individually tailored browser options.

A blocking standard, PICS (Platform for Internet Content Selection), is being developed at MIT. For more information about this standard, see the World Wide Web Consortium site, http://www.w3.org/pub/WWW/PICS/. ■

"The future is already here"

Professional Assistance: Peggy Garvin
Information Research Specialist, CRS, Library of Congress

Peggy Garvin is an Information Research Specialist with CRS, Library of Congress. She manages the use of information technology for the Congressional Reference Division (CRD) of CRS, which answers roughly 200,000 questions a year. Garvin publishes an internal newsletter, *CRD Searcher*, to inform co-workers about relevant online resources. She holds an MLS from Syracuse University.

Garvin spoke about the value of human filtering of online information. She noted that articles about librarians in the popular press either predict gloom, doom and obsolescence, or extol the valuable skills of information professionals.

"I prefer the latter," said Garvin, "because in my job, I feel as though the future is already here. We are wired, and our clients are wired."

CRS creates information resources and has implemented procedures for quality review. Staff members now spend much more time than in the past developing electronic resources to help the clients answer the questions from their desktops. They have a virtual reference desk, which links only to relevant resources that they have evaluated. Garvin said CRS staff members often find themselves guiding clients through online services via phone.

She identified three crucial tasks of the librarian in the information age:

- to filter and provide pointers to electronic resources;
- to conduct reference interviews to focus a user's search, and
- to learn the parameters of complex information systems and provide training and troubleshooting.

"I really cannot draw a neat line between automated filtering systems and human assistance," Garvin said. "Information professionals use the automated filtering systems. We definitely need them. We evaluate and select the information that feeds into the filtering systems. We even filter the filtering systems, evaluating them and selecting the best ones for our organization."

Professional assistance supersedes the keyword search. To be useful, results must be relevant. "Who needs the information and why do they need it? That is a standard part of the reference interview, and it results in a better response. That is part of the value you can add," Garvin said.

"On the Web, evaluating credibility and quality is absolutely essential," she said. It is also important for the information professional to build expertise in particular subject areas, and to familiarize herself with her organization.

"Strategic organizational needs are best met by a professional information manager with an organization-wide perspective," said Garvin. "They must be able to anticipate the needs of the organization and not reinvent the wheel each time a new research need

arises." She encouraged information professionals to create resources which showcase their expertise.

CRD Searcher is such a resource. It is a current awareness automation newsletter—an example of professional assistance in news filtering and dealing with information explosion. To produce the newsletter, Garvin and her co-workers subscribe to in-house and external discussion lists and review announcements received from companies about databases and online search features. They also use their own daily searching and troubleshooting experience and apply various filters to evaluate resources.

One obvious filter is the subject addressed by the resource. "Thomas Jefferson said that there is no subject to which a member of Congress may not have occasion to refer—but we know the ones they refer to most often," said Garvin.

As with print resources, quality is an important filter. Who is the author or producer, and what is their track record? Is the information accurate and consistent? Is it indexed and organized?

The context of their work also provides a filter. Do sites mesh with service policies? CRS is objective and nonpartisan. They do not research one member of Congress for another member of Congress. "A lot of systems that would be just what a lobbyist or a campaign strategist might need are not relevant for us," Garvin said.

It is also necessary to apply a technical filter. Do they have the hardware or software? Is the product technically sound?

Finally, Garvin and her co-workers add value to the lists of resources by identifying problems, highlighting strengths and weaknesses of the resources, and suggesting the best uses for each one.

"So, clearly librarians have a role in the information age," Garvin said. "But we face a few challenges. We have to keep our technical skills current, which is a very big challenge these days, so that we can understand, design, and use the automated systems. We have to know our customer. Be part of the team and be integrated into the decision-making process of your organization. That way you will be in a better position to add the value that a human information professional can bring." ■

"The promise is clear"

Part IV: Continuity—Coordination and Commitment
David Plocher, Democratic Counsel, Senate Committee of Governmental Affairs

David Plocher, Democratic Counsel for the Senate Committee of Governmental Affairs, has worked on a number of management laws relating to government information policy. These include the Paperwork Reduction Act, the Information Technology Management and Reform Act (ITMRA), and the Government Performance and Results Act.

The Web is changing government information dissemination. "The promise is clear," Plocher said. Recently, the National Performance Review issued a report called "Access America" which gives a glowing account of the promise of information technology for delivering basic government information to the general public and streamlining government processes.

"Unfortunately, the problem is also clear," said Plocher. "Agencies have a very poor record of using information technologies." Problems include a lack of incentives for data-sharing between agencies, unwillingness to consolidate programs, lack of security, lack of concern for privacy issues, and an abundance of "IRM for IRM's sake."

"These are all management problems, not technology problems," said Plocher.

"No mere general debate will work," he said. "What is needed is for agencies to evaluate uses of information technology to serve specific mission goals in light of policy (such as privacy protection) and then make a business case for any needed changes." The linking of information technologies to program services is often what has been missing. Goals must be clearly stated, rational processes should be followed, and results must be measurable.

"Will this really happen?" he asked. He offered one indicator. In October, the new director of OMB issued a memo that stipulates that funding major information systems will require showing that the system:

- Supports the agency's core mission function;
- Is not available outside the agency;
- Supports reengineered work processes;
- Demonstrates a projected return on investment;
- Is consistent with government information architectures;
- Reduces risk as a measurable implementation strategy;
- Meets accepted acquisition policy goals.

"The key for those who care about information content, use, permanence, access, dissemination—and all of those things I assume you care about—is to recognize the link between the activities related to information functions and the program activities and basic mission goals of the agency," said Plocher.

Chief Information Officers (CIOs) should not be protectors of information activities or technologists who wants new systems, he warned. The CIO should ensure that there is a link between the information and the program. If they don't, the function is no good. This is not to say that CIOs are a proxy for the OMB, bent on reducing technology programs. But Plocher said that the question when evaluating technology positions will be "What have you done for your program lately?"

"The challenge for information specialists is to make yourselves useful," he concluded. "It sounds harsh, but that's the bottom line. Do not assume your value, prove it." ■

"We absolutely must provide better information services to our citizens."

Emmett Paige
Assistant Secretary of Defense and Chief Information Officer, Dept. Defense

The Forum closed with remarks from Emmett Paige, Assistant Secretary of Defense and Chief Information Officer (CIO), Department of Defense (DoD), the Pentagon.

General Paige served in the US Army from 1947-1988, holding numerous positions in communications systems and technology. Following his retirement from the Army, he became the President Chief Operating Officer of the OAO Corporation, an aerospace and information systems company. He was appointed Assistant Secretary of Defense for Command, Control, Communications and Intelligence in 1993. He holds three honorary doctorates, and has received a number of awards, including the Visionary Award of the Year in 1996 from *Communications Week*.

Paige spoke about the newly minted role of agency CIOs. "We've seen a great change in federal information polices with the passage of the Clinger-Cohen Act of 1996. The CIO of each agency has been given a seat at the table to improve the way our government works," he said. "For years, we've all experienced frustration when putting information technology to use in our government. We've all been burdened with mounds of paperwork, volumes of regulation, years of protest in the acquisition process." He expressed his hope that CIOs will help to put an end to such inefficient practices.

"The Department of Defense is trying to use its seat carefully," said Paige, because everybody will be looking to see how they implement the CIO Act with Cohen as the CEO of the DoD.

He discussed the development of the Global Command and Control system. "It was a struggle to be born under the old laws and can now be maintained and linked to new systems under the new set of rules," said Paige. The system was created in three years, nine years less than the system it replaced. The system was built more quickly because of a flexible management attitude and the emphasis on getting commercial technology to the fighters.

"I cannot emphasize enough the importance of having top management that understands the importance of information technology, recognizes the need to work hand-in-glove with the commercial sector, and appreciates the volatility of the information industry," said Paige.

He acknowledged the difficulty of making changes in entrenched systems. He is concerned about the longevity of the CIO Act unless the administration and Congress continue put pressure on agencies to fully enact it. "I believe it will take at least eight years of continued emphasis and pressure from Congress until the CIO act will become ingrained in the system," he said.

Paige observed that the DoD has more than 100 accounting systems, and questioned the need for the duplication of efforts in this and other areas. "We must force a

decision to consolidate and kill systems that are duplicates of one another. Every system application that's out there has a costly applications and maintenance tale to it," he said.

"We must find processes to continually update systems and incorporate new technologies while they're still new," he said. It is also crucial, however, to use standardized programs and data and a common operating environment. The CIO Council has already established an interoperability working group.

Paige said that he is not advocating total information flow and exchange—only where it's necessary and appropriate. "Privacy and security concerns are also paramount," he said.

"I believe we must act on a multiple agency basis," he said. The CIO Council is not tackling interagency decision making yet, but Paige believes it eventually will. "This is an outstanding opportunity to learn from the successes and hard lessons of others and to break through organizational barriers. We absolutely must provide better information services to our citizens, and we no longer have the luxury of having every agency go its own way to form these services."

"We have an unprecedented opportunity to change the way our government operates," he concluded. "We must take the time to review what we do and how we'll do it. Together, we could work together and do it. It really is a management problem, not a technology problem. The technology is here to do what needs to be done." ■

Notes:

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